

ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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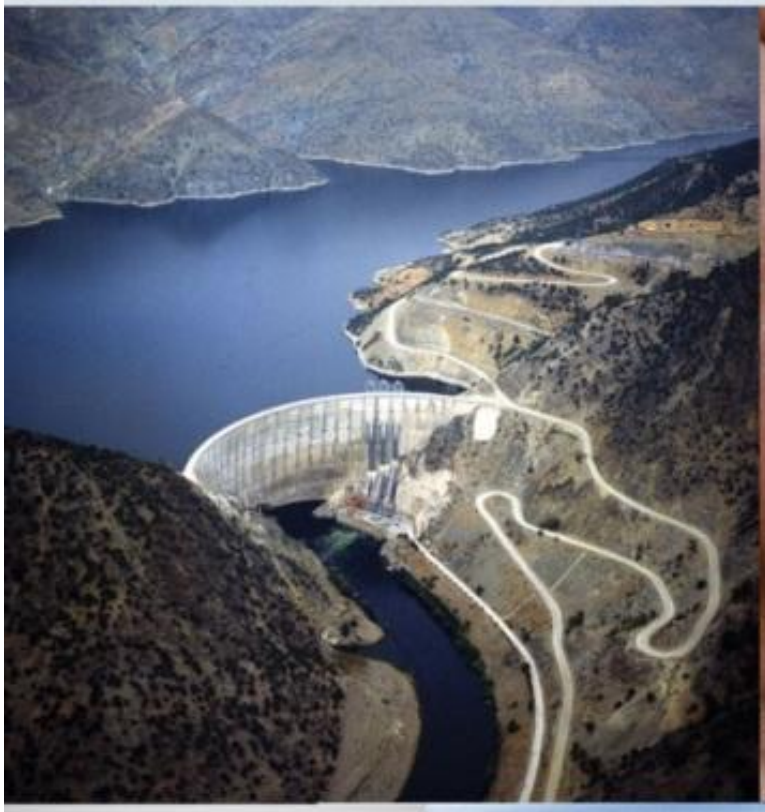



Desalination Nation: How Israel Is Helping The World Fight Water Shortage

In the hot and arid Middle East, clean water is liquid gold. Faced with limited rainfall and a grueling climate, Israel has increasingly relied on seawater since it built its first desalination plant in Eilat in the 1960s. Today, about 60 percent of Israel's domestic water demand is met through desalination – the process by which salt and other impurities are removed from seawater to produce potable water.

"We used to have enough water from the Sea of Galilee and underground aquifers. But in the 1990s, we felt the water scarcity more and more," Tomer Efrat, process engineering manager at Israel Desalination Enterprises (IDE) Technologies, tells NoCamels. "Every television and radio newscast concluded with an update on the water level in the Sea of Galilee."

Fortunately, desalination – along with drip irrigation, water recycling and sustainable water conservation policies – has increased Israel's water supply and amazingly, transformed its water shortage into a water surplus. In fact, Israel is the only country where the desert is shrinking thanks to the abundance of water for agriculture. "Today, no one in Israel experiences water scarcity," Efrat says.

3 million cubic meters of potable water daily

Israel has proven itself as a world leader in desalination after decades of research and entrepreneurship. For example, reverse osmosis – the technique by which seawater is forced through ultra-fine membranes that filter out larger salt molecules – was pioneered by Israeli scientist Sidney Loeb in the 1960s at Ben-Gurion University (BGU), which is located in the Negev, Israel's largest desert.

Much credit belongs to IDE Technologies, which has built three desalination plants in Sorek, Ashkelon and Hadera, along Israel's coastline. The internationally renowned company was ranked the world's 19th smartest company in 2016 by MIT Technology Review, and is sought by countries across the globe. According to IDE Technologies, the company's 400 plants in 40 countries (which it has built over four decades) provide 3 million cubic meters of potable water around the world daily.

The crown jewel of Israeli water engineering

When visiting IDE's Sorek facility, it is easy to see why this desalination plant – the largest in the world – is lauded as the crown jewel of Israeli water engineering. This intricate system of mammoth pumps, pipes and filters draws seawater from the Mediterranean Sea to produce enough clean water for the 1.5 million people in the areas around it (roughly 20 percent of Israel's household consumption).

Standing at the heart of the plant are two large halls containing hundreds of vessels hanging vertically like laboratory test-tubes. This is where the magic of reverse osmosis happens. The busy hum of mega pumps dominates the halls as water is pushed through the plant's 16,000

desalination membranes. The filtered water undergoes further treatment before visitors can drink a glass of freshly desalted water.

The environmental cost of desalination

With water scarcity affecting more than 40 percent of the global population, according to the UN, there is clearly an urgent need for large-scale solutions like desalination. But critics decry the high cost and high energy consumption of desalination, which can have a negative impact on the environment and on our oceans.

Efrat claims that IDE has taken many steps to reduce the cost and environmental footprint of its plants. For example, the company reduces energy consumption not only by reusing waste heat, but also by keeping its reverse osmosis membranes clean, so that less pressure is needed to push the water through the membranes. “IDE is also the only desalination company that offers chemical-free desalination, which means there is minimal impact on the environment,” he says.

Despite the criticism, desalination is being used globally as a major solution to water shortage. As a world-leader in water technologies, Israel’s experts are helping communities around the globe to harvest water from the ocean.

The Americas

The $1 billion Carlsbad desalination plant was built in 2015 by IDE in San Diego County, California, after its governor had sought help from Israel to overcome its drought-inflicted water shortage. Jerry Brown declared a drought state of emergency in 2014, which was lifted only in April 2017 for most of the state. But the National Drought Mitigation Center issued a warning the same month that approximately 10.3 million Californians are still affected by the drought. And, it’s not a matter of if, but rather when, droughts will hit the state again.

Fortunately, the Carlsbad plant – which is considered the largest in the Western Hemisphere, and was named “Desalination Plant of the Year” by Global Water Intelligence magazine – provides 54 million gallons of water a day for 300,000 Californians, and generates about $50 million for the regional economy. What’s more, IDE is preparing to commission another desalination plant in Santa Barbara, which is expected to be fully operational later this year.

In addition to California, IDE provides affordable desalinated water to coal-fired power plants in Chile. After the successful construction of its first desalination plant in Chile in 1996, the company built three more in 2009, 2010 and 2013.

Asia

Despite its small size, Israel has helped boost the water supply of China and India, the two most populous countries in the world, with over 1.3 billion people each. In China, IDE has built a desalination plant in the coastal city of Tianjin, 200 kilometers from Beijing. The Tianjin plant – the largest in China – uses thermal-based desalination rather than reverse

osmosis. “Thermal-based desalination is designed to imitate nature, which produces fresh water by evaporation and condensation,” Efrat explains.

In the Indian state of Gujarat, IDE built India’s largest desalination plant in 1998, which supplies water to India’s largest oil refinery. The plant has proven to be so successful that IDE recently started expansion works, a project that has been shortlisted for the “Industrial Desalination Plant of the Year” by Global Water Awards 2017.

The Middle East

Israel’s geopolitical situation is as heated as its climate. But leaders in the Israeli water industry believe that the country’s desalination technology could be extended as an olive branch to its neighbors.

One ambitious endeavor is the Red Sea-Dead Sea Water Conveyance Project. This is a joint proposal by Israel, Jordan and the Palestinian Authority to pipe water from the Gulf of Aqaba on the Red Sea (in the south of Jordan), clean it in a desalination plant in Jordan, and then use the brine discharge to replenish the shrinking Dead Sea, which is shared by Israel and Jordan. The resulting potable water will be shared by Israelis, Jordanians and Palestinians.

The first phase of this $10 billion project is expected to begin in 2018 and end in 2020. For this first phase, the Jordanian government has shortlisted 20 companies from China, France, Singapore, Canada, Italy, Japan, South Korea and Spain to construct the desalination plant in Jordan and the brine delivery system that will lead to the Dead Sea.

Israel has shown that the innovation of desalination lies not only in its technology, but in its potential use as a bridge between nations. As climate change and population growth continue to place stress on Earth’s finite water resources, Israel hopes to make great strides in desalination and other water technologies to meet the world’s growing demand for water.

24/05/2017 online at: http://nocamels.com/2017/05/desalination-israel-drought-water-shortage/

Ronald Lauder’s RWL water to merge with Israeli firm Emefcy

The New York-based RWL Water, founded by Jewish-American philanthropist Ronald Lauder, will be merging with Israeli sewage treatment firm Emefcy in an approximately $100 million deal.

The companies will be coming together to form a venture called Fluence Corporation Limited, with the purpose of creating “a global provider of innovative, decentralized water and wastewater treatment solutions for both municipal and industrial applications,” they announced on Friday. Emefcy – listed on the Australian Securities Exchange – will be issuing 100.5 million new ordinary stock shares as the purchase consideration for all of RWL’s equity interests, while Lauder is committing to acquire an additional $20m. worth of shares, pursuant to the agreement.

"By creating Fluence, we are now taking RWL Water and Emefcy to the next level through the unique combination of breakthrough innovations and rapid deployment of standardized solutions by proven teams," said Lauder, whose ownership of the combined entity will be about 34%. "I look forward to remaining a significant shareholder of Fluence and seeing the fulfillment of the legacy I set out to create in the water space by originally establishing RWL Water."

RWL Water specializes in deploying scalable water treatment solutions in the desalination, wastewater, waste-to-energy and reuse sectors, and has built more than 7,000 installations around the world.

The Caesarea-based Emefcy, meanwhile, boasts an innovative sewage treatment technology that employs significantly less energy than typical facilities. The company's Membrane Aerated Biofilm Reactor (MABR) uses water-tight membranes that enable the diffusion of oxygen into the wastewater without requiring a high-energy compressor – using 80% less energy than conventional plants and reducing sludge by up to 50%, according to the company.

Thus far, Emefcy's MABR system is up and running at a municipal treatment plant in St. Thomas, in the US Virgin Islands, as well as in facilities in Israel.

In addition, the company has two sites under construction in Ethiopia – one in an Addis Ababa residential neighborhood and a second at Mekelle University's Ayder Hospital in Tigray.

About two weeks ago, Emefcy announced plans for commercial deployment in China, after signing a memorandum of understanding to develop a wastewater treatment plant in the Zhejiang Province over the next three months. The company has previously signed four distribution agreements and initiated a demonstration plant in the country.

While Emefcy and RWL Water only announced the merger last week, the two companies declared their intentions to work together in April. At the time, the firms said they would soon be collaborating to provide a variety of "plug-and-play" sewage treatment options to remote villages in China.

Fluence will be focusing on developing water and wastewater solutions for "the rapidly growing market for decentralized treatment," the partners said.

The firms cited the massive Chinese rural wastewater treatment market in particular as a target sector, as well as markets in other water-stressed regions, like the United States, the Middle East and Latin America.

Emefcy CEO Eytan Levy, who will serve as Fluence's president in charge of products and innovation, told The Jerusalem Post that the merger will meld Emefcy's "powerhouse of innovation" with RWL's "outstanding execution capabilities." Much of the innovation will continue to take place in Israel, as about a third of the New York-based firm's workers will be based in Caesarea, he added.

By capitalizing on the unique abilities of both firms, Fluence will be able to deliver “high added value advanced technologies to the market” and thereby increase turnover and profitability, according to Levy.

“I think it’s a rare combination of capabilities that creates a synergy, because there is no overlap in the current activity of the two companies before the merger,” he said. “Combining the two creates a strong, unified company that has all these capabilities in-house.”

28/05/2017 online at: http://www.jpost.com/Business-and-Innovation/Ronald-Lauders-RWL-Water-to-merge-with-Israeli-firm-Emefcy-494147

Water rates to fall 14.5% from June 1

The water rates for farmers will be cut 20%, the Israel Water Authority Council has announced.

Following Knesset passage of Amendment 27 of the Water Law in January 2017, the Israel Water Authority Council has reduced the rate for the recognized quantity of water (3.5 cubic meters per person) for household consumers by 14.5%, effective as of June 1, 2017.

This price cut completes a 30% reduction in water rates over the past four years, together with the water corporations reform, which makes it possible to manage the water sector more efficiently, while cutting the necessary cost of water and sewage services.

The new rate will be NIS 6.54 per cubic meter up to 3.5 cubic meters per person. The lower rate was made by possible by the return of proceeds for water production by private producers for the benefit of the water sector.

In addition, the water rates for farmers will be cut from NIS 2.51 to NIS 1.98 per cubic meter in the first stage, a 20% reduction. Two years from now, the rates will be cut by a further 10% to NIS 1.81 per cubic meter - a total reduction of 30%.

This water rate reduction for Mekorot National Water Company's agriculture consumers is part of a combined measure of transferring the proceeds from water production from the state treasury to the water sector.

This measure of part of a general arrangement and water production fee arrangement for homes and agriculture, and making the Water Authority responsible for them.

The Water Authority said that setting the rates set today by the Water Authority Council was the result of thorough professional work, which included many public hearings, as required by such a momentous step.

28/05/2017 online at: http://www.globes.co.il/en/article-water-rates-to-fall-145-from-june-1-1001190487

Japan provides Jordan with $21.6m grant for water sector

#Japan will provide an additional grant of 21,616,344 to #Jordan under an agreement signed by the Planning and International Cooperation Ministry and the Japanese government on Monday.

The grant from the Japanese International Cooperation Agency (JICA) will be administered by the United Nations Office for Project Services (UNOPS) to support the second phase of an 'urgent programme' to improve the efficiency of the water sector in the northern governorates hosting Syrian refugees, benefiting 20,000 citizens in the targeted areas, a statement by the Planning Ministry announced.

Minister of Planning and International Cooperation Imad Fakhoury, Ambassador of #Japan to #Jordan Shuichi Sakurai, Director and Representative of the UNOPS Operational Hub in Amman Bana Kaloti and Chief Representative of the JICA Office in Amman Tsutoma Kobayashi signed the grant agreement.

Fakhoury said that the grant is a response from the Japanese government to the request made to support #Jordan in alleviating the burdens of hosting 1.3 million Syrian refugees as part of the Jordanian Response Plan to the Syrian crisis.

The minister said that the grant aims to improve the quantity, quality and efficiency of drinking water, noting that it is following the first phase, which was implemented with the support of the Japanese government through a 2014 grant worth 22.4 million that was officially received on May 11, 2017, according to the statement..

Fakhoury expressed appreciation for Japan's support and praised the deep-rooted relations and cooperation in various fields, noting that #Jordan has received about 1.29 billion in support from Japan, 505.72 million of which was in grants and the rest in soft loans, in addition to technical assistance provided to #Jordan through the JICA.

For his part, Ambassador Sakurai said: 'I strongly hope that the new grant, in conjunction with the previous one, will improve water supply services for people in the region, thereby contributing to increased access to clean water and the promotion of peace and social stability in Jordan.'

23/05/2017 online at: http://menafn.com/1095505498/Japan-provides-Jordan-with-USD216m-grant-for-water-sector

Oman plans to build mobile water desalination project

Oman plans to build a mobile desalination project, with a capacity to produce 100,000 cubic meters of water per day (22 million imperial gallons per day or MIGD) to meet temporary shortages for potable water in different parts of the country.

The country's Public Authority for Electricity and Water (PAEW) has requested Oman Power and Water Procurement Company (OPWP) to start ground work for the water desalination project, which will be mounted either on land transport vehicles or sea-faring barges, providing mobility to various sites according to water demand, said a seven-year outlook statement released by OPWP.

Such plants may be modular in nature and can be mounted either on land transport vehicles or sea-faring barges.

"PAEW is awaiting government approval prior to authorizing OPWP to issue a tender. If PAEW receives the Ministry of Finance's approval, OPWP may begin procurement in 2017," added the seven-year outlook.

The average annual peak demand for water within the interconnected zone in Oman for the next seven years is estimated to be 5 per cent per annum, up from 897,000 cubic meters per day in 2016 to 1.29 million cubic meters per day in 2023. However, the average growth in demand is higher at 7 per cent per year in a high case scenario during the period.

Several independent water projects (IWPs) are planned for different regions to meet the growing demand for water, the report noted.

A new desalination plant is planned for the Sharqiya region, with a capacity of 80,000 cubic meters per day. PAEW said this project will be developed in a single phase, which is expected to start operations in the second quarter of 2020. OPWP obtained bids for the project in the fourth quarter of 2016, and plans to make the award by the second quarter of 2017.

Another desalination project planned in Salalah (Salalah III) will be awarded to a private bidder in the second quarter of 2017.

"The Salalah III IWP will have a capacity of 100,000 cubic meters per day (22 MIGD) and is scheduled to start commercial operation in January, 2020."

Another IWP in Khasab (Khasab IWP), which will have a capacity of 16,000 cubic meters per day (3.5 MIGD), is under procurement, with the project expected to start operations in the first quarter of 2021. Bidder pre-qualification began in the fourth quarter of 2016, and the request for a proposal is expected to be released during the second quarter of 2017.

In the Dhofar region, OPWP has initiated a study for the Dhofar water 2022 project, which may have a capacity of 100,000 cubic meters per day (22 MIGD), subject to approvals from the Ministry of Finance and other regulatory approvals. The required commercial operation date may be around 2022, which would imply that initial procurement stages would begin in 2017.

27/05/2017 online at: http://timesofoman.com/article/109861/Business/Oman-plans-to-build-mobile-water-desalination-project

Ministry studying rise in ground water levels around Muscat

A study is currently being conducted by the Ministry of Regional Municipalities and Water Resources in cooperation with the Sultan Qaboos University, to record the level of groundwater in some areas of the Muscat Governorate.

The study comes after a reported rise in the level of groundwater in Ansab, Amerat, Al Khuwair, Darsait and areas around the Muscat International Airport, especially near the surface.

Introductory reports from the study show that the groundwater often accumulates in the wadi sediments near the coast, in wadi streams and in solid rocks. The level of groundwater in Amerat in the upper reserve layers was recorded to be between 10-20 meters, and the average of the groundwater levels in the lower reserve layers around 1-5 meters. In Al Khoudh and the area around the airport, the groundwater levels are around 5-55 meters.

29/05/2017 online at: http://timesofoman.com/article/110038/Oman/Environment/Ministry-studying-rise-in-ground-water-levels-around-Muscat

Michael Kugelman on Pakistan's "Nightmare" Water Scenario

"Water scarcity is a nightmare scenario that is all too real and all but inevitable in Pakistan," says Michael Kugelman, deputy director of the Wilson Center's Asia Program, in this week's podcast.

Pakistan faces the intersecting challenges of population growth, inefficient infrastructure and policies, deep societal inequality, and climate change, leading to a situation where the country is "voraciously consuming water even as water tables are plummeting precipitously," says Kugelman. Not only are water problems exacerbating internal tensions, they're complicating relations with fellow riparian and upstream rival, India.

The degree of Pakistan's dilemma is profound. A 2015 International Monetary Fund report found that Pakistan's water consumption is the fourth highest in the world and its water intensity rate (the amount of water needed for every unit of GDP) is also among the highest. Groundwater reserves, the "last resort of water security," says Kugelman, is a "safety net that is fraying." He cites a NASA study that found the Indus Basin aquifer, shared between India and Pakistan, is the second most overdrawn in the world.

High levels of consumption are driven by the "robust demand of a rapidly growing population, which now numbers close to 200 million people," says Kugelman. The annual growth rate is around 1.8 percent, and is projected to stay above 1 percent until at least 2030.

Poor infrastructure and policy also contribute to the dilemma. "Pakistan is unfortunately rather notorious for its leaky, dilapidated pipes, canals, and dams," says Kugelman, which in turn supply a huge agricultural sector that guzzles water at an enormous rate. The government subsidizes water-intensive crops, like sugar, while encouraging inefficient irrigation methods, like flood irrigation. Overall, agriculture may account for 90 percent of Pakistan's water usage, says Kugelman.

“It is 100% wrong to claim that water is a ‘soft’ issue, that the two sides can use water as a confidence building measure”

In “feudal-like conditions” of deep inequality, tenants struggle to access water on land controlled by elites, who face little scrutiny in how they use it. “It’s been said that land ownership is as a proxy for water rights,” says Kugelman. “If you don’t own land, your right to water is highly tenuous.”

While these factors drive up demand, climate change is imperiling supply. The glaciers of the Western Himalayas, the headwaters of the Indus River and its tributaries, have been melting rapidly. “The government in Pakistan has claimed that glacial melt on Pakistan’s mountains has increased by nearly 25 percent in recent years,” says Kugelman. “The once mighty Indus River has slowed to essentially a trickle in parts of the southern province of Sindh.”

Many in Pakistan, including anti-India terror groups, see these problems and accuse India of hoarding water and depleting rivers that flow across the border. Some believe the only solution is to “liberate” the disputed border areas of Jammu and Kashmir.

But Kugelman says there is no evidence to support this accusation and that India is “more of a convenient scapegoat than a genuine explanation.” India has mostly built “run of the river” dams that do not store appreciable amounts of water and thus do not keep water from flowing across the border, he says. The Indus Waters Treaty also gives Pakistan the rights to the three largest rivers of the basin, amounting to 80 percent of flows, says Kugelman. “The broader reality is that there has actually been a fair level of cooperation between these two enemies in managing transboundary water resources in the Indus Basin.”

Climate change and rapid population growth are changing conditions significantly and there have been calls on both sides for the treaty to be renegotiated, but Kugelman believes there is not enough trust between the two for a renegotiation to be productive at the moment. “It is 100 percent wrong to claim that water is a ‘soft’ issue, that the two sides can use water as a confidence building measure,” he asserts.

Resolution of Pakistan’s water problems will require mainly domestic changes, but in the public eye are more connected with cross-border, nationalist contentions, a dynamic that only entrenches problems. “You cannot separate transboundary water management from the ugly, complex, political disputes in India-Pakistan relations,” he says. “There is really nothing apolitical about transboundary water management on the Indian Subcontinent.”

26/05/2017 online at: https://www.newsecuritybeat.org/2017/05/michael-kugelman-pakistans-nightmare-water-scenario/

Only 76% of allocated funds spent on water projects

Water supply and storage does not seem to be among top priorities of the government as despite facing acute shortages, the utilization of funds on water projects has gone down.

In the current fiscal year 2016-17, the government has allocated Rs31.72 billion for development schemes in the water sector, but only around Rs24 billion, or 76% of the total, would be utilized by the end of June, reveals the Annual Plan 2017-18 released on Friday.

The ruling PML-N government has not only delayed the release of funds for water projects designed to enhance the country's storage capacity, but it has also cut fund allocation substantially since coming to power about four years ago.

Its focus has primarily been on road infrastructure and metro bus projects and has pushed water schemes among less priority areas.

After coming to power in mid-2013, the government earmarked Rs59 billion for fiscal year 2013-14 to be disbursed among different projects aimed at conserving and enhancing the country's water resources. However, out of the total, only Rs35 billion could be spent as the government slowed down the release of funds.

In 2015-16, the allocation for water projects was slashed by around 50% to Rs30.12 billion. However, only Rs23 billion was disbursed for injection into the schemes.

In the next fiscal year, almost a similar amount, Rs31.06 billion, was set aside for water schemes, but only Rs24 billion would be released by the end of the year.

For the upcoming fiscal year 2017-18, a slightly higher amount estimated at Rs36.7 billion has been earmarked for water projects.

Pakistan is fast becoming a water-stressed country with dearth of storages and India's plan to build more dams on rivers coming to Pakistan.

No workable water management policy has been put in place and farmers are forced to consume groundwater with the help of tube wells to irrigate their crops, which inflates power consumption bills.

In order to vent their anger, the farmers staged a protest in Islamabad on Friday before the unveiling of budget for 2017-18 to invite attention to their plight as the government seemed to have relegated the agriculture sector to less priority areas.

In the previous fiscal year, the agriculture sector did not grow, falling far short of the target, which had a negative impact on the overall national economic growth. In the current fiscal year, however, the agriculture sector grew 3.46% – its highest level in the past five years.

In the new budget, the government has increased agriculture credit target by 43% to Rs1.001 trillion and has announced loans of Rs 50,000 for small farmers.

Still, it has paid more attention to the manufacturers and industrialists, which are even getting loans at low interest rates whereas the farmers are compelled to bear high interest costs.

Among the industrialists, fertilizer manufacturers and sugar millers have got billions in government subsidy, but its benefits have hardly trickled down to the farmers.

Some officials warn Pakistan will face energy and food security challenges in future as the government has scant interest in water supply projects, which are closely related with agriculture production that needs water as a major input.

Pakistan has been facing flood devastation for the past seven years, but calls for building more water reservoirs have fallen on deaf ears. At present, water storage capacity of the country is 14 million acre feet (MAF) whereas annual consumption stands at 117 MAF.

“Consumption of 1 MAF of water has a positive impact of $1 billion on the economy; this way Pakistan has been losing billions every year because of water wastage as reservoirs are not too many,” an official said.

There are only two major dams – Tarbela and Mangla. The former was built in 1977 and its storage capacity has dropped to 6.4 MAF against earlier 9.4 MAF. However, Mangla’s capacity has been enhanced by 3 MAF to 7.4 MAF following a structure raising project.

28/05/2017 online at: https://tribune.com.pk/story/1421109/76-allocated-funds-spent-water-projects/

The Importance of Global Water Policy – Two Perspectives

Charles Fishman and Seth Siegel know a thing or two about water.

Fishman is author of The Big Thirst: The Secret Life and Turbulent Future of Water. Siegel wrote Let There Be Water: Israel’s Solution for a Water-Starved World.

They were among the 200 people interested in water issues who spent two days in Milwaukee this week. The draw was The Water Council’s 10th annual summit at which security was the theme.

Charles Fishman says cyber security does not get a lot of attention in the world of water, but should.

“If hackers can hack the CIA, if hackers can steal every personnel record of every federal employee of the United States - taking down a water utility plant or treatment plant would not be a problem,” Fishman says.

He says the cyber risk runs deep.

“Lots of people have water technology that has digital elements to it and those are connected to the water utility in your town," Fishman explains. "So there is vulnerability way outside the fence line of a water treatment plant."

He also notes that climate change is increasingly felt in water.

“That means that in Norfolk Virginia and in Miami Beach and also in Bangladesh, when there’s huge precipitation the flooding is worse than it otherwise would be.”

The U.S. military is not standing by idly.

“All the naval bases in Norfolk are being retrofitted to accommodate climate change. Regardless with what is happening inside the Beltway in Washington, folks who run the naval bases know climate change is real,” Fishman says.

He suggests you need only look to Syria to understand water’s impact on world events.

“The political environment in Europe, even in the U.S. in the wake of the last presidential election, a question about NATO - all of that has to do with concerns about immigrants….most of it is coming out of Syria. It’s the Syrian Civil War,” Fishman says. "It began to brew as Syrians gave up their farms, moved to the city and could not find work. They left the countryside because of water scarcity.

“And the reason there was no water in Syria was not that there wasn’t water. There was bad water management,” Fishman says.

Author Seth Siegel says in his research he learned water can be a tool for peace and cooperation.

“This rather remarkable fellow Uri Shani from Israel dreamed up this idea of how to rethink water in the Middle East," says Siegel. "How to find a way to have the Jordanians, the Israelis, the Palestinians working together to share water - they came up with their resolution by virtue of talking together.”

He calls the project a big step forward and a model from which other countries can learn.

“This will provide a way for them to have to work together, and what they have to do today will find a way of becoming a benefit for them and their interactions tomorrow. That will lead, I believe, no doubt to other opportunities for peace and peacefulness,” Siegel says.

Both Siegel and Fishman underscore the need of sound and coordinated water policy now.

Fishman says think of it like having a leak in your roof:

"Just like fixing a leak .....with good shingles….(it) is much cheaper than letting it go on and on and doing damage all through the house. All those problems in places where water is becoming a problem are fixable. They don’t cost that much to fix in advance.” Fishman adds that “the consequences of not fixing them as you can see, they can literally cascade of not fixing them, as you can see, they can literally cascade through the politics of whole continents.”

Seth Siegel says the word ‘delay’ is not an option.

“It’s not just me saying this, it’s the U.S. government now says that 60 percent of the world’s landmass, 40 of our 50 U.S. states will be facing water scarcity issues by the year 2025. That’s almost going. Let’s get going.” Siegel adds, “We have just enough time to put in the policy and technological and pricing mechanisms that we need to fix the problem.”

26/05/2017 online at: http://wuwm.com/post/importance-global-water-policy-two-perspectives#stream/0